

## US5949876: Systems and methods for secure transaction management and electronic rights protection

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**395/237,241 380/4,16,49,24 705/039**

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Abstract:  
The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

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Related Applications:

Application Number	ApplDate	Patent	Issued	Title
US1995000388107	1995-02-13			

Family: Show known family members

U.S. References:

Show the 5 patents that reference this one

Patent	Issued	Inventor(s)	Applicant(s)	Title
US4309569	1 /1982	Merkle	The Board of Trustees of the Leland Stanford Junior University	Method of providing digital signatures
US4337483	6 /1982	Guillou	Etablissement Public de Diffusion dit "Telediffusion de France"	Text video-transmission system provided with means for controlling access to the information
US4465901	8 /1984	Best		Crypto microprocessor that executes enciphered programs
US4558176	12 /1985	Arnold et al.		Computer systems to inhibit unauthorized copying, unauthorized usage, and automated cracking of protected software
US4672572	6 /1987	Alsberg	Gould Inc.	Protector system for computer access and use
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US4757534	7 /1988	Matyas et al.	International Business Machines Corporation	Code protection using cryptography
US4796181	1 /1989	Wiedemer		Billing system for computer software
US4799156	1 /1989	Shavit et al.	Strategic Processing Corporation	Interactive market management system
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US4817140	3 /1989	Chandra et al.	International Business Machines Corp.	Software protection system using a single-key cryptosystem, a hardware-based authorization system and a secure coprocessor
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			Inc.	<u>moving target security codes from protected software</u>
US4868877	9 /1989	Fischer		<u>Public key/signature cryptosystem with enhanced digital signature certification</u>
US4903296	2 /1990	Chandra et al.	International Business Machines Corporation	<u>Implementing a shared higher level of privilege on personal computers for copy protection of software</u>
US4930073	5 /1990	Cina, Jr.	International Business Machines Corporation	<u>Method to prevent use of incorrect program version in a computer system</u>
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US5128525	7 /1992	Stearns et al.	Xerox Corporation	<u>Convolution filtering for decoding self-clocking glyph shape codes</u>
US5136643	8 /1992	Fischer		<u>Public/key date-time notary facility</u>
US5136646	8 /1992	Haber et al.	Bell Communications Research, Inc.	<u>Digital document time-stamping with catenate certificate</u>
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				<u>Relational database</u>

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US5224160	6 /1993	Paulini et al.	Siemens Nixdorf Informationssysteme AG	Process for securing and for checking the integrity of the secured programs
US5224163	6 /1993	Gasser et al.	Digital Equipment Corporation	Method for delegating authorization from one entity to another through the use of session encryption keys
US5235642	8 /1993	Wobber et al.	Digital Equipment Corporation	Access control subsystem and method for distributed computer system using locally cached authentication credentials
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US5247575	9 /1993	Sprague et al.		Information distribution system
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US5265164	11 /1993	Matyas et al.	International Business Machines Corporation	Cryptographic facility environment backup/restore and replication in a public key cryptosystem
US5276735	1 /1994	Boebert et al.	Secure Computing Corporation	Data enclave and trusted path system
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			Communication	transmission channel
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US5343527	8 /1994	Moore	International Business Machines Corporation	Hybrid encryption method and system for protecting reusable software components
US5347579	9 /1994	Blandford		Personal computer diary
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			Compaq Computer	Method and apparatus for

US5421006	5 /1995	Jablon	Compaq Computer Corp.	assessing integrity of computer system software
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			Corporation	<u>environment and an external computing environment</u>
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US5533123	7 /1996	Force et al.	National Semiconductor Corporation	<u>Programmable distributed personal security</u>
US5534975	7 /1996	Stefik et al.	Xerox Corporation	<u>Document processing system utilizing document service cards to provide document processing services</u>
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				operation
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US5613004	3 /1997	Cooperman et al.	The Dice Company	<u>Steganographic method and device</u>
US5621797	4 /1997	Rosen	Citibank, N.A.	<u>Electronic ticket presentation and transfer method</u>
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US5634012	5 /1997	Stefik et al.	Xerox Corporation	<u>System for controlling the distribution and use of digital works having a fee reporting mechanism</u>
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US5638504	6 /1997	Scott et al.	Object Technology Licensing Corp.	<u>System and method of processing documents with document proxies</u>
US5640546	6 /1997	Gopinath et al.	Network Programs, Inc.	<u>Composition of systems of objects by interlocking coordination, projection, and distribution</u>
US5655077	8 /1997	Jones et al.	Microsoft Corporation	<u>Method and system for authenticating access to heterogeneous computing services</u>
US5687236	11 /1997	Moskowitz et al.	The Dice Company	<u>Steganographic method and device</u>
US5689587	11 /1997	Bender et al.	Massachusetts Institute of Technology	<u>Method and apparatus for data hiding in images</u>
US5692180	11 /1997	Lee	International Business Machines	<u>Object-oriented cell directory database for a</u>

US5692180	11 /1997	Lee	Business Machines Corporation	distributed computing environment
US5710834	1 /1998	Rhoads	Digimarc Corporation	Method and apparatus responsive to a code signal conveyed through a graphic image
US5740549	4 /1998	Reilly et al.	PointCast, Inc.	Information and advertising distribution system and method
US5745604	4 /1998	Rhoads	Digimarc Corporation	Identification/authentication system using robust, distributed coding
US5748763	5 /1998	Rhoads	Digimarc Corporation	Image steganography system featuring perceptually adaptive and globally scalable signal embedding
US5748783	5 /1998	Rhoads	Digimarc Corporation	Method and apparatus for robust information coding
US5748960	5 /1998	Fischer		Method and apparatus for validating travelling object-oriented programs with digital signatures
US5754849	5 /1998	Dyer et al.	Wayfarer Communications, Inc.	Self-describing object providing dynamic manipulation of heterogeneous data values and semantic identity between memory and transmission representations
US5757914	5 /1998	McManis	Sun Microsystems, Inc.	System and method for protecting use of dynamically linked executable modules
US5758152	5 /1998	LeTourneau	Prime Arithmetics, Inc.	Method and apparatus for the generation and manipulation of data structures
US5765152	1 /1998	Erickson	Trustees of Dartmouth College	System and method for managing copyrighted electronic media
US5768426	6 /1998	Rhoads	Digimarc Corporation	Graphics processing system employing embedded code signals

CLAIMS:  
[\[Hide claims\]](#):

We claim:

1. A method for negotiating electronic contracts, comprising:

- receiving a first control set from a remote site;
- providing a second control set;
- performing, within a protected processing environment, an electronic negotiation between said first control set and said second control set, including providing interaction between said first and second control sets; and
- producing a negotiated control set resulting from said interaction between said first and second control sets.

2. A system for supporting electronic commerce including:

- means for creating a first secure control set at a first location;
- means for creating a second secure control set at a second location;
- means for securely communicating said first secure control set from said first location to said second location; and
- means at said second location for securely integrating said first and second control sets to produce at least a third control set comprising plural elements together comprising an electronic value chain extended agreement.

3. A system for supporting electronic commerce including:

- means for creating a first secure control set at a first location;
- means for creating a second secure control set at a second location;
- means for securely communicating said first secure control set from said first location to said second location; and
- negotiation means at said second location for negotiating an electronic contract through secure execution of at least a portion of said first and second secure control sets.

4. A system as in claim 3 further including means for controlling use by a user of protected information content based on at least a portion of said first and/or second control sets.

5. A system as in claim 3 further including means for charging for at least a part of said content use.

6. A system for negotiating electronic contracts, comprising:

- a storage arrangement that stores a first control set received from a remote site, and stores a second control set;
- a protected processing environment, coupled to said storage arrangement, that:
- (a) performs an electronic negotiation between said first control set and said second control set,
- (b) provides interaction between said first and second control sets, and
- (c) produces a negotiated control set resulting from said interaction between said first and second control sets.

7. A system as in claim 6 further including means for electronically enforcing said negotiated control set.

8. A system as in claim 6 further including means for generating an electronic contract based on said negotiated control set.

9. A method for supporting electronic commerce including:

- creating a first secure control set at a first location;
- creating a second secure control set at a second location;
- securely communicating said first secure control set from said first location to said second location; and
- electronically negotiating, at said second location, an electronic contract, including the step of securely executing at least a portion of said first and second secure control sets.

10. A method as in claim 1 in which said steps of receiving, providing, performing and producing occur within a Virtual Distribution Environment.

11. A system as in claim 2 in which said first location and said second location are contained within a Virtual Distribution Environment.

12. A system as in claim 3 in which said first location and said

second location are contained within a Virtual Distribution Environment.

13. A system as in claim 6 in which said protected processing environment is contained within a Virtual Distribution Environment.

14. A method as in claim 9 in which said first location and said second location are contained within a Virtual Distribution Environment.

15. A method as in claim 1 in which said first control set is received from a first remote site;

- said second control set is received from a second remote site; and
- said performing step is produced at a third site which is different from the first remote site and the second remote site.

16. A system as in claim 6 in which said second control set is received from a second remote site; and

- said protected processing environment is located at a third site which is different from said remote site and said second remote site.

17. A method as in claim 1 in which:

- said first control set is generated by or for a first party distributor of protected information content;
- said second control set is generated by or for a second party which desires to use said protected information content;
- said electronic negotiation concerns the terms under which said second party will obtain the right to use said protected information content; and
- said negotiated control set includes terms under which said second party receives the right to use said protected information content.

18. A system as in claim 2 in which:

- said first secure control set includes controls generated at least in part by or for a first party distributor of protected information content;
- said second secure control set includes controls generated at least in part by or for a second party which desires to use said protected information content; and
- said third control set includes controls which govern terms under which said second party receives the right to use said protected information content.

19. A system as in claim 3 in which:

- said first secure control set includes controls generated at least in part by or for a first party distributor of protected information content;
- said second secure control set includes controls generated at least in part by or for a second party which desires to use said protected information content; and
- said electronic contract includes controls which govern terms under which said second party receives the right to use said protected information content.

20. A system as in claim 6 in which:

- said first control set includes controls generated at least in part by or for a first party distributor of protected information content;
- said second control set includes controls generated at least in part by or for a second party which desires to use said protected information content; and
- said negotiated control set includes controls which govern terms under which said second party receives the right to use said protected information content.

21. A method as in claim 9 in which

- said first secure control set includes controls generated at least in part by or for a first party distributor of protected information content;
- said second secure control set includes controls generated at least in part by or for a second party which desires to use said protected information content; and
- said electronic contract includes controls which govern terms under which said second party receives the right to use said protected information content.

22. A method as in claim 1 in which said first control set includes terms which are desired but not required.

23. A method as in claim 1 in which said first control set includes required terms.

24. A method as in claim 2 in which said first control set includes required terms.

25. A method as in claim 1 in which said second control set includes required terms.

26. A method as in claim 1 in which said second control set includes terms which are desired but not required.

27. A method as in claim 26 in which said second control set includes required terms.

28. A system as in claim 2 in which said first secure control set includes terms which are desired but not required.

29. A system as in claim 2 in which said first secure control set includes required terms.

30. A system as in claim 28 in which said first secure control set includes required terms.

31. A system as in claim 2 in which said second secure control set includes terms which are desired but not required.

32. A system as in claim 2 in which said second secure control set includes required terms.

33. A system as in claim 31 in which said second secure control set includes required terms.

34. A system as in claim 3 in which said first secure control set includes terms which are desired but not required.

35. A system as in claim 3 in which said first secure control set includes required terms.

36. A system as in claim 34 in which said first secure control set includes required terms.

37. A system as in claim 3 in which said second secure control set includes terms which are desired but not required.

38. A system as in claim 3 in which said second secure control set includes required terms.

39. A system as in claim 38 in which said second secure control set includes required terms.

40. A system as in claim 6 in which said first control set includes terms which are desired but not required.

41. A system as in claim 6 in which said first control set includes required terms.

42. A system as in claim 40 in which said first control set includes required terms.

43. A system as in claim 6 in which said second control set includes terms which are desired but not required.
44. A system as in claim 6 in which said second control set includes required terms.
45. A system as in claim 43 in which said second control set includes required terms.
46. A method as in claim 9 in which said first secure control set includes terms which are desired but not required.
47. A method as in claim 9 in which said first secure control set includes required terms.
48. A method as in 46 in which said first secure control set includes required terms.
49. A method as in 9 in which said second secure control set includes terms which are desired but not required.
50. A method as in claim 9 in which said second secure control set includes required terms.
51. A method as in claim 49 in which said second secure control set includes required terms.
52. A method as in claim 1 in which said first control set is contained in a first PERC.
53. A method as in claim 52 in which said second control set is contained in a second PERC.
54. A method as in claim 1 in which said negotiated control set is contained in a PERC.
55. A method as in claim 1 in which said electronic negotiation is undertaken pursuant to rules contained in a third control set.
56. A method as in claim 2 in which said third control set is contained in a PERC.
57. A system as in claim 2 in which said first secure control set is contained in a first PERC.
58. A system as in claim 57 in which said second secure control set is contained in a second PERC.
59. A system as in claim 58 in which said third control set is contained in a third PERC.
60. A system as in claim 2 in which said means for securely integrating said first and second control sets includes a fourth control set.
61. A system as in claim 60 in which said fourth control set includes controls which govern said secure integration.
62. A system as in claim 60 in which said fourth control set is contained in a PERC.
63. A system as in claim 3 in which said first secure control set is contained in a PERC.
64. A system as in claim 3 in which said second secure control set is contained in a PERC.
65. A system as in claim 64 in which said negotiation means includes a third secure control set.
66. A system as in claim 65 in which said third secure control set is contained in a PERC.
67. A system as in claim 66 in which said third secure control set includes controls which govern said negotiating of said electronic contract.
68. A system as in claim 66 in which said electronic contract consists of a fourth secure control set.
69. A system as in claim 68 in which said fourth secure control set is contained in a PERC.
70. A system as in claim 6 in which said first control set is contained in a PERC.
71. A system as in claim 70 in which said second control set is contained in a PERC.
72. A system as in claim 71 in which said protected processing environment contains a third control set.
73. A system as in claim 72 in which said third control set is contained in a PERC.
74. A system as in claim 72 in which said third control set includes controls which govern said electronic negotiation.
75. A system as in claim 70 in which said negotiated control set is contained in a PERC.

76. A method as in claim 9 in which said first secure control set is contained in a PERC.

77. A method as in claim 9 in which said second secure control set is contained in a PERC.

78. A method as in claim 9 in which said second location contains a third secure control set.

79. A method as in claim 78 in which said third secure control set is contained in a PERC.

80. A method as in claim 78 in which said third secure control set contains controls which govern, at least in part, said step of electronically negotiating an electronic contract.

81. A method as in claim 78 in which said electronic contract consists of a fourth secure control set.

82. A method as in claim 81 in which said fourth secure control set is contained in a PERC.

83. A method as in claim 1 in which said first control set is made up of controls from at least a first and a second alternate groups of controls.

84. A method as in claim 83 in which said first alternate group of controls includes controls which are shared with said second alternate group of controls and controls which are not shared with said second alternate group of controls.

85. A method as in claim 84 in which said second control set is made up of controls from at least a third and a fourth alternate group of controls.

86. A method as in claim 85 in which said third alternate group of controls includes controls which are shared with said fourth alternate group of controls and controls which are not shared with said fourth alternate group of controls.

87. A method as in claim 83 in which said interaction between said first and second control sets includes a step wherein at least one of the alternate groups of controls from said first control set is selected.

88. A method as in claim 85 in which said interaction between said first and second control sets includes a step wherein at least one of the alternate groups of controls from said second control set is selected.

89. A system as in claim 2 in which said first secure control set is made up of controls from at least two alternate groups of controls.

90. A system as in claim 89 in which said at least two alternate groups of controls include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

91. A system as in claim 2 in which said second secure control set is made up of controls from at least two alternate groups of controls.

92. A system as in claim 91 in which said at least two alternate groups of controls making up said second control set include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

93. A system as in claim 89 in which said means at said second location for securely integrating said first and second control sets includes means for selecting at least one of the alternate groups of controls from said first secure control set.

94. A system as in claim 91 in which said means at said second location for securely integrating said first and second control sets includes means for selecting at least one of the alternate groups of controls from said second secure control set.

95. A system as in claim 3 in which said first secure control set is made up of controls from at least two alternate groups of controls.

96. A system as in claim 95 in which said at least two alternate groups of controls include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

97. A system as in claim 3 in which said second secure control set is made up of controls from at least two alternate groups of controls.

98. A system as in claim 97 in which said at least two alternate

groups of controls making up said second secure control set include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

99. A system as in claim 95 in which said negotiation means includes means for selecting at least one of the alternate groups of controls from said first secure control set.

100. A system as in claim 97 in which said negotiation means includes means for selecting at least one of the alternate groups of controls from said second secure control set.

101. A system as in claim 6 in which said first control set is made up of controls from at least two alternate groups of controls.

102. A system as in claim 101 in which said at least two alternate groups of controls include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

103. A system as in claim 6 in which said second control set is made up of controls from at least two alternate groups of controls.

104. A system as in claim 103 in which said at least two alternate groups of controls making up said second control set include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

105. A system as in claim 6 in which said protected processing environment selects at least one of the alternate groups of controls from said first control set.

106. A system as in claim 8 in which said protected processing environment selects at least one of the alternate groups of controls from said second control set.

107. A method as in claim 9 in which said first secure control set is made up of controls from at least two alternate groups of controls.

108. A method as in claim 107 in which said at least two alternate groups of controls include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

109. A method as in claim 9 in which said second secure control set is made up of controls from at least two alternate groups of controls.

110. A method as in claim 109 in which said at least two alternate groups of controls making up said second secure control set include controls which are uniquely in one of said groups, and shared controls which are present in more than one of said groups.

111. A method as in claim 107 in which said step of electronically negotiating includes a step of selecting at least one of the alternate groups of controls from said first secure control set.

112. A method as in claim 109 in which said step of electronically negotiating includes a step of selecting at least one of the alternate groups of controls from said second secure control set.

113. A method as in claim 1 in which said first control set, said second control set or said negotiated control set includes a REGISTER control.

114. A method as in claim 1 in which said first control set, said second control set or said negotiated control set includes a WANT control.

115. A method as in claim 1 in which said first control set, said second control set or said negotiated control set includes a REQUIRE control.

116. A system as in claim 2 in which said first secure control set, said second secure control set or said third control set includes an ACCEPT control.

117. A system as in claim 2 in which said first secure control set, said second secure control set or said third control set includes a REJECT control.

118. A system as in claim 2 in which said first secure control set, said second secure control set or said third control set includes an OFFER control.

119. A system as in claim 3 in which said first secure control set, said second secure control set, or said electronic contract includes a HAVE control.

120. A system as in claim 3 in which said first secure control set, said second secure control set, or said electronic contract includes a QUIT control.

121. A system as in claim 1 in which said first secure control set, said second secure control set or said electronic contract includes an AGREEMENT control.

122. A system as in claim 6 in which said first control set or said second set includes a WANT control and a REQUIRE control.

123. A system as in claim 6 in which said first control set or said second set includes a REGISTER control and a WANT control.

124. A system as in claim 6 in which said negotiated control set includes an AGREEMENT control.

125. A method as in claim 9 in which said first secure control set includes a REGISTER control and an OFFER control.

126. A method as in claim 9 in which said second secure control set includes an OFFER control and a HAVE control.

127. A method as in claim 9 in which said electronic contract includes a REGISTER control and an AGREEMENT control.

128. A method as in claim 1 further including the step of executing said negotiated control set within said protected processing environment.

129. A method as in claim 128 further including the step of executing said negotiated control set within a second protected processing environment which is different from the protected processing environment within which said performing step occurs.

130. A system as in claim 2 further including means for executing said third control set within a protected processing environment.

131. A system as in claim 130 in which said protected processing environment is located at said second location.

132. A system as in claim 130 in which said protected processing environment is located at a location other than said second location.

133. A system as in claim 3 further including means for executing said electronic contract within a protected processing environment.

134. A system as in claim 133 in which said protected processing environment is located at said second location.

135. A system as in claim 133 in which said protected processing environment is located at a location other than said second location.

136. A system as in claim 6 in which said negotiated control set is executed in said protected processing environment.

137. A system as in claim 6 in which said negotiated control set is executed in a second protected processing environment.

138. A method as in claim 9 further including the step of executing said electronic contract.

139. A method as in claim 138 in which said step of executing said electronic contract occurs in a protected processing environment.

140. A method as in claim 139 in which said protected processing environment is located at said second location.

141. A method as in claim 138 in which said protected processing environment is located at a location other than said second location.

142. A method as in claim 1 in which said negotiated control set is digitally signed.

143. A method as in claim 1 in which said negotiated control set is digitally signed by said first control set.

144. A method as in claim 143 in which said negotiated control set is digitally signed by said second control set.

145. A method as in claim 1 in which said negotiated control set is digitally signed by a control set which carries out said electronic negotiation.

146. A method as in claim 142 in which said digital signing is done through public key encryption.

147. A system as in claim 142 further including means for digitally signing said third control set.

148. A system as in claim 147 in which said means for digitally signing said third control set includes means for allowing said first

secure control set to carry out said digital signing.

149. A system as in claim 147 in which said means for digitally signing said third control set includes means for allowing said second secure control set to carry out said digital signing.

150. A system as in claim 3 further including means for digitally signing said electronic contract.

151. A system as in claim 150 in which said means for digitally signing said electronic contract includes means for allowing said first secure control set to carry out said digitally signing.

152. A system as in claim 150 in which said means for digitally signing said electronic contract includes means for allowing said second secure control set to carry out said digitally signing.

153. A system as in claim 6 in which said protected processing environment digitally signs said negotiated control set.

154. A system as in claim 153 in which said protected processing environment digitally signs said negotiated control set using a digital signature created or supplied by said first control set.

155. A system as in claim 153 in which said protected processing environment digitally signs said negotiated control set using a digital signature created or supplied by said second control set.

156. A method as in claim 9 further including digitally signing said electronic contract.

157. A method as in claim 156 in which said step of digitally signing said electronic contract is carried out using a digital signature created or supplied at least in part by said first secure control set.

158. A method as in claim 156 in which said step of digitally signing said electronic contract is carried out using a digital signature created or supplied at least in part by said second secure control set.

159. A method as in claim 1 in which said negotiated control set includes controls containing human-language terms corresponding to at least certain of the machine-executable controls contained in said negotiated control set.

160. A method as in claim 159 in which said human-language terms are contained in one or more data descriptor data structures.

161. A system as in claim 2 in which said third control set includes controls containing human-language terms corresponding to at least certain of the machine-executable controls contained in said third control set.

162. A method as in claim 161 in which said human-language terms are contained in one or more data descriptor data structures.

163. A system as in claim 3 in which said electronic contract includes controls containing human-language terms corresponding to at least certain of the machine-executable controls contained in said electronic contract.

164. A method as in claim 163 in which said human-language terms are contained in one or more data descriptor data structures.

165. A system as in claim 6 in which said negotiated control set includes controls containing human-language terms corresponding to at least certain of the machine-executable controls contained in said negotiated control set.

166. A method as in claim 165 in which said human-language terms are contained in one or more data descriptor data structures.

167. A method as in claim 9 in which said electronic contract includes controls containing human-language terms corresponding to at least certain of the machine-executable controls contained in said electronic contract.

168. A method as in claim 167 in which said human-language terms are contained in one or more data descriptor data structures.

169. A method as in claim 1 in which said remote site contains a second protected processing environment.

170. A system as in claim 2 in which said means for creating a first secure control set includes a protected processing environment.

171. A system as in claim 2 in which said means for creating a second secure control set includes a protected processing environment.

172. A system as in claim 2 in which said means at said second location for securely integrating includes a protected processing environment.

173. A system as in claim 3 in which said means for creating a first secure control set includes a protected processing environment.

174. A system as in claim 3 in which said means for creating a second secure control set includes a protected processing environment.

175. A system as in claim 3 in which said negotiation means includes a protected processing environment.

176. A method as in claim 9 in which said first location includes a protected processing environment.

177. A method as in claim 9 in which said second location includes a protected processing environment.

178. A method as in claim 1 in which said first protected processing environment contains a first secure processing unit.

179. A method as in claim 178 in which said steps of performing and producing are carried out, at least in part, by said first secure processing unit.

180. A method as in claim 178 in which said second protected processing environment contains a second secure processing unit.

181. A system as in claim 2 in which said means for creating a first secure control set includes a first secure processing unit.

182. A system as in claim 181 in which said means for creating a second secure control set includes a second secure processing unit.

183. A system as in claim 182 in which said means at said second location for securely integrating includes said second secure processing unit.

184. A system as in claim 3 in which said means for creating a first secure control set includes a secure processing unit.

185. A system as in claim 3 in which said means for creating a second secure control set includes a secure processing unit.

186. A system as in claim 3 in which said negotiating means includes a secure processing unit.

187. A system as in claim 6 in which said protected processing environment includes a secure processing unit.

188. A method as in claim 9 in which said first location contains a secure processing unit.

189. A method as in claim 188 in which said second location contains a second secure processing unit.

190. A method as in claim 189 in which said step of securely executing at least a portion of said first and second secure control sets is performed at least in part using said second secure processing unit.

191. A method as in claim 1 in which said protected processing environment contains a software based tamper resistant barrier.

192. A method as in claim 191 in which said steps of performing and producing are carried out, at least in part, within said software based tamper resistant barrier.

193. A method as in claim 169 in which said first protected processing environment contains a first software based tamper resistant barrier.

194. A method as in claim 193 in which said second protected processing environment contains a second software based tamper resistant barrier.

195. A system as in claim 2 in which said first location contains a first software based tamper resistant barrier.

196. A system as in claim 195 in which said second location contains a second software based tamper resistant barrier.

197. A system as in claim 3 in which said first location contains a first software based tamper resistant barrier.

198. A system as in claim 3 in which said second location contains a second software based tamper resistant barrier.

199. A system as in claim 6 in which said protected processing environment includes a software based tamper resistant barrier.

200. A method as in claim 9 in which said first location contains a

first software based tamper resistant barrier.

201. A method as in claim 200 in which said second location contains a second software based tamper resistant barrier.

202. A method as in claim 1 in which said first control set represents a negotiating position of a first party.

203. A method as in claim 202 in which said first party is a clearinghouse.

204. A method as in claim 202 in which said first party is a content provider.

205. A method as in claim 202 in which said first party is a content distributor.

206. A method as in claim 202 in which said first party is a content user.

207. A method as in claim 202 in which said second control set represents a negotiating position of a second party.

208. A method as in claim 207 in which said second party is a clearinghouse.

209. A method as in claim 207 in which said second party is a content provider.

210. A method as in claim 207 in which said second party is a content distributor.

211. A method as in claim 207 in which said second party is a content user.

212. A system as in claim 2 in which said first secure control set represents a negotiating position of a first party.

213. A system as in claim 212 in which said first party is a clearinghouse.

214. A system as in claim 212 in which said first party is a content provider.

215. A system as in claim 212 in which said first party is a content distributor.

216. A system as in claim 212 in which said first party is a content user.

217. A system as in claim 212 in which said second control set represents a negotiating position of a second party.

218. A method as in claim 217 in which said second party is a clearinghouse.

219. A method as in claim 217 in which said second party is a content provider.

220. A method as in claim 217 in which said second party is a content distributor.

221. A method as in claim 217 in which said second party is a content user.

222. A system as in claim 3 in which said first secure control set represents a negotiating position of a first party.

223. A system as in claim 222 in which said first party is a clearinghouse.

224. A system as in claim 222 in which said first party is a content provider.

225. A system as in claim 222 in which said first party is a content distributor.

226. A system as in claim 222 in which said first party is a content user.

227. A system as in claim 222 in which said second control set represents a negotiating position of a second party.

228. A method as in claim 227 in which said second party is a clearinghouse.

229. A method as in claim 227 in which said second party is a content provider.

230. A method as in claim 227 in which said second party is a content distributor.

231. A method as in claim 227 in which said second party is a content user.

232. A system as in claim 6 in which said first control set represents a negotiating position of a first party.

233. A system as in claim 232 in which said first party is a clearinghouse.

234. A system as in claim 232 in which said first party is a content

provider.

235. A system as in claim 232 in which said first party is a content distributor.

236. A system as in claim 232 in which said first party is a content user.

237. A system as in claim 232 in which said second control set represents a negotiating position of a second party.

238. A method as in claim 237 in which said second party is a clearinghouse.

239. A method as in claim 237 in which said second party is a content provider.

240. A method as in claim 237 in which said second party is a content distributor.

241. A method as in claim 237 in which said second party is a content user.

242. A method as in claim 9 in which said first secure control set represents a negotiating position of a first party.

243. A method as in claim 242 in which said first party is a clearinghouse.

244. A method as in claim 242 in which said first party is a content provider.

245. A method as in claim 242 in which said first party is a content distributor.

246. A method as in claim 242 in which said first party is a content user.

247. A method as in claim 242 in which said second control set represents a negotiating position of a second party.

248. A method as in claim 247 in which said second party is a clearinghouse.

249. A method as in claim 247 in which said second party is a content provider.

250. A method as in claim 247 in which said second party is a content distributor.

251. A method as in claim 247 in which said second party is a content user.

252. A method as in claim 1 in which said first control set contains controls governing the type of payment mechanism to be used for a transaction.

253. A method as in claim 1 in which said first control set contains controls governing the price to be used for a transaction.

254. A method as in claim 1 in which said first control set contains controls governing the auditing method to be used for a transaction.

255. A method as in claim 1 in which said first control set contains controls governing the identity of the clearinghouse to be used for a transaction.

256. A method as in claim 1 in which said first control set contains controls governing the information to be disclosed in a transaction.

257. A method as in claim 1 in which said second control set contains controls governing the type of payment mechanism to be used for a transaction.

258. A method as in claim 1 in which said second control set contains controls governing the price to be used for a transaction.

259. A method as in claim 1 in which said second control set contains controls governing the auditing method to be used for a transaction.

260. A method as in claim 1 in which said second control set contains controls governing the identity of the clearinghouse to be used for a transaction.

261. A method as in claim 1 in which said second control set contains controls governing the information to be disclosed in a transaction.

262. A method as in claim 1 in which said negotiated control set contains controls governing the type of payment mechanism to be used for a transaction.

263. A method as in claim 1 in which said negotiated control set contains controls governing the price to be used for a transaction.

264. A method as in claim 1 in which said negotiated control set contains controls governing the auditing method to be used for a

transaction.

265. A method as in claim 1 in which said negotiated control set contains controls governing the identity of the clearinghouse to be used for a transaction.

266. A method as in claim 1 in which said negotiated control set contains controls governing the information to be disclosed in a transaction.

267. A system as in claim 2 in which said first secure control set contains controls governing the type of payment mechanism to be used for a transaction.

268. A system as in claim 2 in which said first secure control set contains controls governing the price to be used for a transaction.

269. A system as in claim 2 in which said first secure control set contains controls governing the auditing method to be used for a transaction.

270. A system as in claim 2 in which said first secure control set contains controls governing the identity of the clearinghouse to be used for a transaction.

271. A system as in claim 2 in which said first secure control set contains controls governing the information to be disclosed in a transaction.

272. A system as in claim 2 in which said second secure control set contains controls governing the type of payment mechanism to be used for a transaction.

273. A system as in claim 2 in which said second secure control set contains controls governing the price to be used for a transaction.

274. A system as in claim 2 in which said second secure control set contains controls governing the auditing method to be used for a transaction.

275. A system as in claim 2 in which said second secure control set contains controls governing the identity of the clearinghouse to be used for a transaction.

276. A system as in claim 2 in which said second secure control set contains controls governing the information to be disclosed in a transaction.

277. A system as in claim 2 in which said third control set contains controls governing the type of payment mechanism to be used for a transaction.

278. A system as in claim 2 in which said third control set contains controls governing the price to be used for a transaction.

279. A system as in claim 2 in which said third control set contains controls governing the auditing method to be used for a transaction.

280. A system as in claim 2 in which said third control set contains controls governing the identity of the clearinghouse to be used for a transaction.

281. A system as in claim 2 in which said third control set contains controls governing the information to be disclosed in a transaction.

282. A system as in claim 3 in which said first secure control set contains controls governing the type of payment mechanism to be used for a transaction.

283. A system as in claim 3 in which said first secure control set contains controls governing the price to be used for a transaction.

284. A system as in claim 3 in which said first secure control set contains controls governing the auditing method to be used for a transaction.

285. A system as in claim 3 in which said first secure control set contains controls governing the identity of the clearinghouse to be used for a transaction.

286. A system as in claim 3 in which said first secure control set contains controls governing the information to be disclosed in a transaction.

287. A system as in claim 3 in which said second secure control set contains controls governing the type of payment mechanism to be used for a transaction.

288. A system as in claim 2 in which said second secure control

set contains controls governing the price to be used for a transaction.

289. A system as in claim 2 in which said second secure control set contains controls governing the auditing method to be used for a transaction.

290. A system as in claim 2 in which said second secure control set contains controls governing the identity of the clearinghouse to be used for a transaction.

291. A system as in claim 2 in which said second secure control set contains controls governing the information to be disclosed in a transaction.

292. A system as in claim 2 in which said electronic contract contains controls governing the type of payment mechanism to be used for a transaction.

293. A system as in claim 2 in which said electronic contract contains controls governing the price to be used for a transaction.

294. A system as in claim 2 in which said electronic contract contains controls governing the auditing method to be used for a transaction.

295. A system as in claim 3 in which said electronic contract contains controls governing the identity of the clearinghouse to be used for a transaction.

296. A system as in claim 3 in which said electronic contract contains controls governing the information to be disclosed in a transaction.

297. A system as in claim 6 in which said first control set contains controls the type of payment mechanism to be used for a transaction.

298. A system as in claim 6 in which said first control set contains controls governing the price to be used for a transaction.

299. A system as in claim 6 in which said first control set contains controls governing the auditing method to be used for a transaction.

300. A system as in claim 6 in which said first control set contains controls governing the identity of the clearinghouse to be used for a transaction.

301. A system as in claim 6 in which said first control set contains controls governing the information to be disclosed in a transaction.

302. A system as in claim 6 in which said second control set contains controls governing the type of payment mechanism to be used for a transaction.

303. A system as in claim 6 in which said second control set contains controls governing the price to be used for a transaction.

304. A system as in claim 6 in which said second control set contains controls governing the auditing method to be used for a transaction.

305. A system as in claim 6 in which said second control set contains controls governing the identity of the clearinghouse to be used for a transaction.

306. A system as in claim 6 in which said second control set contains controls governing the information to be disclosed in a transaction.

307. A system as in claim 6 in which said negotiated control set contains controls governing the type of payment mechanism to be used for a transaction.

308. A system as in claim 6 in which said negotiated control set contains controls governing the price to be used for a transaction.

309. A system as in claim 6 in which said negotiated control set contains controls governing the auditing method to be used for a transaction.

310. A system as in claim 6 in which said negotiated control set contains controls governing the identity of the clearinghouse to be used for a transaction.

311. A system as in claim 6 in which said negotiated control set contains controls governing the information to be disclosed in a transaction.

312. A method as in claim 9 in which said first secure control set contains controls governing the type of payment mechanism to be used for a transaction.

313. A method as in claim 9 in which said first secure control set contains controls governing the price to be used for a transaction.

314. A method as in claim 9 in which said first secure control set contains controls governing the auditing method to be used for a transaction.

315. A method as in claim 9 in which said first secure control set governing the identity of the clearinghouse to be used for a transaction.

316. A method as in claim 9 in which said first secure control set contains controls governing the information to be disclosed in a transaction.

317. A method as in claim 9 in which said second secure control set contains controls governing the type of payment mechanism to be used for a transaction.

318. A method as in claim 9 in which said second secure control set contains controls governing the price to be used for a transaction.

319. A method as in claim 9 in which said second secure control set contains controls governing the auditing method to be used for a transaction.

320. A method as in claim 9 in which said second secure control set governing the identity of the clearinghouse to be used for a transaction.

321. A method as in claim 9 in which said second secure control set contains controls governing the information to be disclosed in a transaction.

322. A method as in claim 9 in which said negotiated control set contains controls governing the type of payment mechanism to be used for a transaction.

323. A method as in claim 9 in which said negotiated control set contains controls governing the price to be used for a transaction.

324. A method as in claim 9 in which said negotiated control set contains controls governing the auditing method to be used for a transaction.

325. A method as in claim 9 in which said negotiated control set governing the identity of the clearinghouse to be used for a transaction.

326. A method as in claim 9 in which said negotiated control set contains controls governing the information to be disclosed in a transaction.

327. A method as in claim 1 in which said protected processing environment is located at a first site, and said first site includes an operating system based on or compatible with Microsoft Windows.

328. A method as in claim 327 in which said step of performing and producing are carried out, at least in part, by software contained within said operating system.

329. A system as in claim 2 in which said means for creating a first secure control set includes an operating system based on or compatible with Microsoft Windows.

330. A system as in claim 2 in which said means for creating a second secure control set includes an operating system based on or compatible with Microsoft Windows.

331. A system as in claim 2 in which said means at said second location for securely integrating said first and second control sets includes an operating system based on or compatible with Microsoft Windows.

332. A system as in claim 3 in which said means for creating a first secure control set includes an operating system based on or compatible with Microsoft Windows.

333. A system as in claim 3 in which said means for creating a second secure control set includes an operating system based on or compatible with Microsoft Windows.

334. A system as in claim 3 in which said negotiation means includes an operating system based on or compatible with Microsoft Windows.

335. A system as in claim 6 in which said protected processing environment includes an operating system based on or compatible with Microsoft Windows.

336. A method as in claim 9 in which said first location includes a first operating system based on or compatible with Microsoft Windows.

337. A method as in claim 336 in which said second location includes a second operating system based on or compatible with Microsoft Windows.

338. A method as in claim 336 in which said step of creating a first secure control is carried out at least in part by software incorporated in said first operating system.

339. A method as in claim 337 in which said step of creating a second secure control is carried out at least in part by software incorporated in said second operating system.

340. A method as in claim 337 in which said step of electronically negotiating is carried out at least in part by software incorporated in said second operating system.

341. A method as in claim 1 further comprising said negotiated control set governing the use of digital information.

342. A method as in claim 1 further comprising said negotiated control set governing the execution of at least one load module.

343. A method as in claim 1 further comprising said negotiated control set governing the execution of at least one method.

344. A method as in claim 1 further comprising said negotiated control set governing the execution of at least one other control set different from said first control set, said second control set and said negotiated control set.

345. A system as in claim 2 further comprising means by which said third control set governs the use of digital information.

346. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one load module.

347. A system as in claim 2 farther comprising means by which said third control set governs the execution of at least one method.

348. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one transaction.

349. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one procedure.

350. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one other control set different from said first control set, said second control set and said third control set.

351. A system as in claim 3 further comprising means by which said electronic contract governs the use of digital information.

352. A system as in claim 3 further comprising means by which said electronic contract governs the execution of at least one load module.

353. A system as in claim 3 further comprising means by which said electronic contract governs the execution of at least one method.

354. A system as in claim 3 further comprising means by which said electronic contract governs the execution of at least one transaction.

355. A system as in claim 3 further comprising means by which said electronic contract governs the execution of at least one procedure.

356. A system as in claim 3 further comprising means by which said electronic contract governs the execution of a third control set different from said first control set and said second control set.

357. A system as in claim 6 further comprising means by which said negotiated control set governs the use of digital information.

358. A system as in claim 6 further comprising means by which said negotiated control set governs the execution of at least one load module.

359. A system as in claim 6 further comprising means by which said negotiated control set governs the execution of at least one method.

360. A system as in claim 6 further comprising means by which

said negotiated control set governs the execution of at least one transaction.

361. A system as in claim 6 further comprising means by which said negotiated control set governs the execution of at least one procedure.

362. A system as in claim 6 further comprising means by which said negotiated control set governs the execution of a third control set different from said first control set and said second control set.

363. A method as in claim 9 further comprising said electronic contract governing the use of digital information.

364. A method as in claim 9 further comprising said electronic contract governing the execution of at least one load module.

365. A method as in claim 9 further comprising said electronic contract governing the execution of at least one method.

366. A method as in claim 9 further comprising said electronic contract governing the execution of at least one transaction.

367. A method as in claim 9 further comprising said electronic contract governing the execution of at least one procedure.

368. A method as in claim 9 further comprising said electronic contract governing the execution of at least one other control set different from said first control set, said second control set and said negotiated control set.

369. A method for securely managing electronic negotiations related to electronic commerce value chain activities including:

- employing a first protected processing environment to securely specify rules and/or controls for managing an electronic commerce process;
- securely making said specified rules and/or controls available to a second protected processing environment, located remotely from said first protected processing environment;
- employing said second protected processing environment to further securely specify rules and/or controls for managing at least one commerce process related to the common commercial interests of at least two parties;
- employing said second protected processing environment to securely electronically negotiate at least one aggregate rules and/or controls set representing the electronic interests of said at least two parties; and
- employing a protected processing environment to manage said electronic commerce process consistent with at least a portion of said aggregate rules and/or controls set.

370. A system for securely managing electronic negotiations related to electronic commerce value chain activities including:

- a first protected processing environment associated with a first party, for securely specifying rules and/or controls for managing an electronic commerce process, and for securely making said specified rules and/or controls available to a second party;
- a second protected processing environment associated with a second party different from said first party, for
- further securely specifying rules and/or controls, including means for managing at least one commerce process related to the common commercial interests of said first party and said second party;
- securely electronically negotiating at least one aggregate rules and/or controls set representing the electronic interests of both said first party and said second party; and
- managing said electronic commerce process consistent with said at least a portion of said aggregate rules and/or controls set.

371. A system for negotiating electronic contracts, comprising:

- a storage arrangement that stores a first control set received from a remote site, and stores a second control set;
- a protected processing environment, coupled to said storage arrangement, that:
- performs an electronic negotiation between said first control set and said second control set,
- provides interaction between said first and second control sets, and
- produces negotiated control information resulting from said interaction between said first and second control sets.

372. A system as in claim 371 further including means for electronically enforcing said negotiated control set.

373. A system as in claim 371 further including means for generating an electronic contract based on said negotiated control set.

374. A system as in claim 3 in which said electronic contract is contained, at least in part, in a User Rights Table.

375. A method as in claim 9 in which said electronic contract is contained, at least in part, in a User Rights Table.

This is a divisional of application Ser. No. 08/388,107, filed Feb. 13, 1995, abandoned.

Background/Summary:

Drawing Descriptions:  
Description of Preferred Embodiments:

Foreign References:

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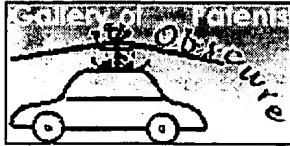
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